The US Forest Service Land Records Information System

Transition to NILS

USACOE Real Estate GIS Meeting

May 25, 2005

Outline

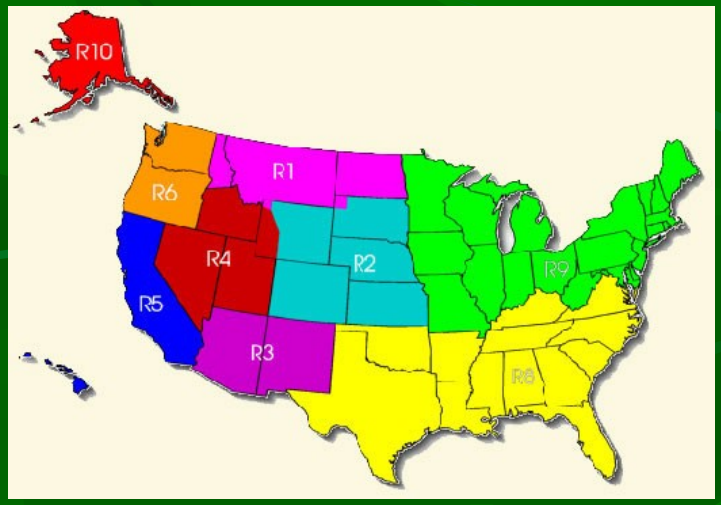
- Overview of Forest Service Land Record System
  - Automated Lands Program (ALP)
- Status of Forest Service NILS Implementation
  - History of NILS involvement
  - Prescott Pilot
  - Boundary & Title Mgt Project
- Closing Remarks

What is ALP?

- US Forest Service Automated Lands Program
- Purpose
  - Provide guidance, standards, and support for regional lands data migration, maintenance, and reporting activities
  - Provide lands data models for maintenance and publication
  - Provide products for maintaining and using lands data

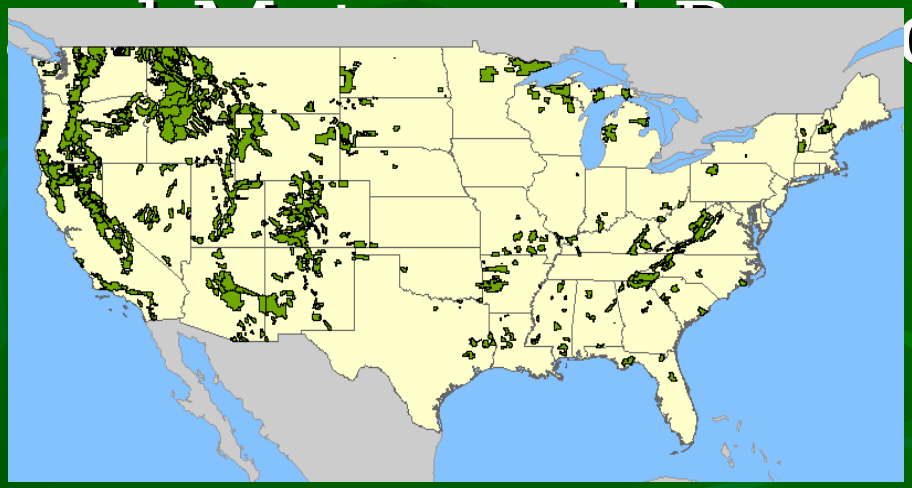
USFS ALP Organization

- National ALP Team
- Regional ALP Teams

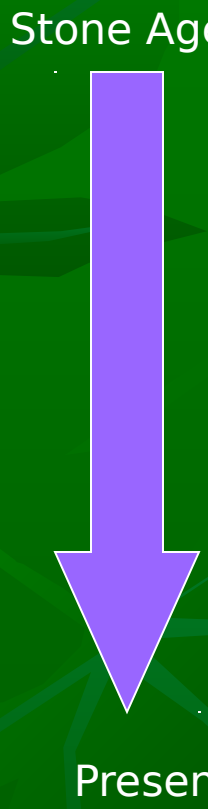


USFS Lands

- Approximately 192 million acres
- > 86,000 cases of federal land transactions
- Public Land Survey System (PLSS)



USFS Land Record System History



- Varied manual record keeping
- Land Status Atlas (1958-90’s)
- LOS database (1978 – mid 90’s)
- ALP (1992 – present)
- BLM/USFS NILS Partnership 1998

Current System

- Spatial Data Format
  - Arc/Info Coverages
- Relational Database System
  - Oracle 8i -> 9i
- Maintenance Interface
  - Arcview 3, ArcInfo Workstation, Oracle Forms

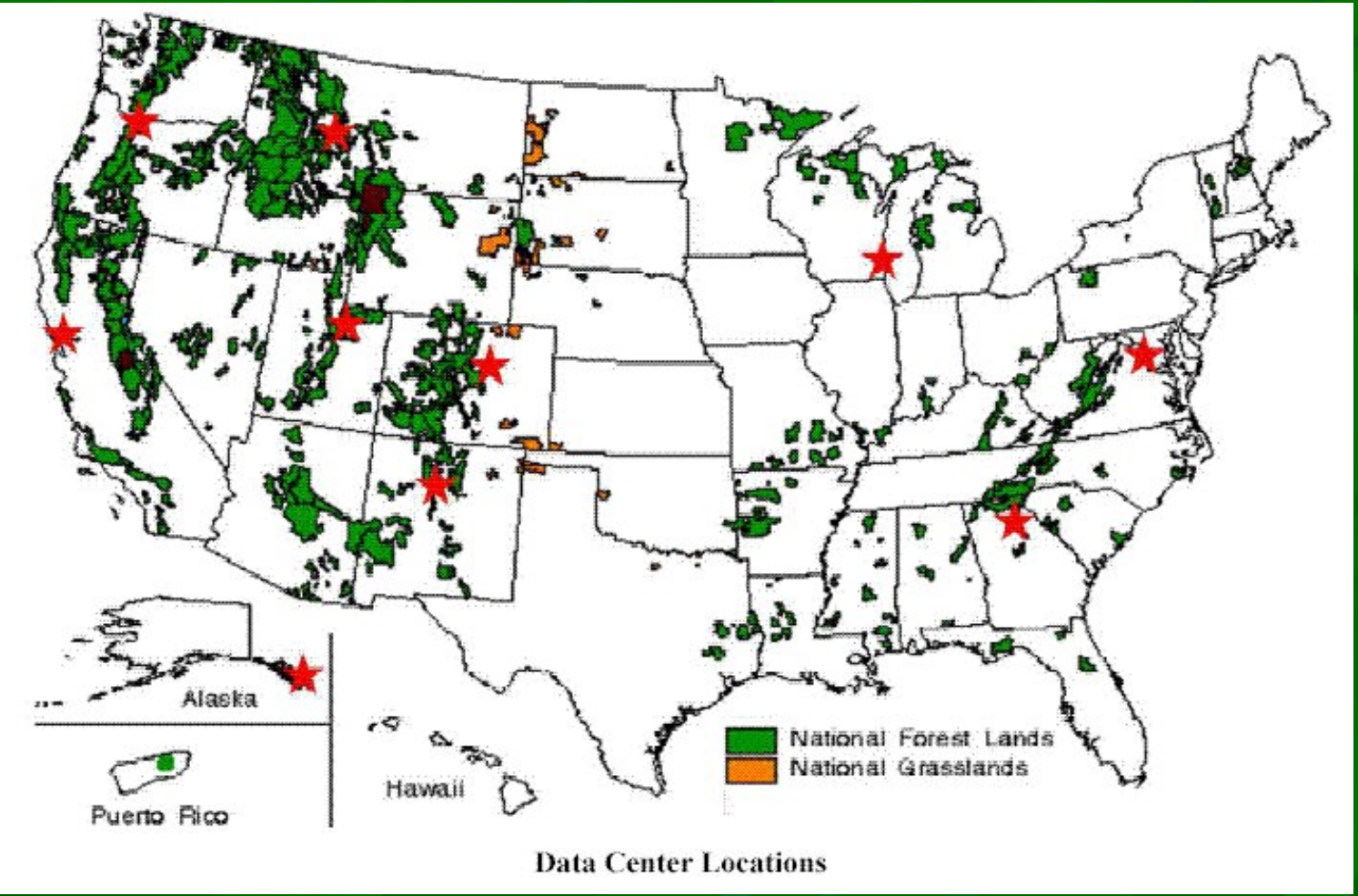
Current USFS E-GIS Architecture

- IBM AIX Servers (regional offices, forests, other centers) ~ 160
  - ArcInfo workstation v9, Arcview 3, ArcSDE v9
  - Oracle 8i
- Windows2000 PC's (each user)
  - ArcGIS 9

Next USFS E-GIS Architecture

- IBM AIX Servers at 9 Data Centers
  - Oracle 10g application server
  - Oracle 9i database
  - ArcSDE 9, ArcServer 9
- Windows Terminal (Citrix) Servers at Data Centers
  - ArcGIS 9, ArcServer 9
- Windows PC’s with windows terminal client software

Enterprise Data Centers



Data Center Locations

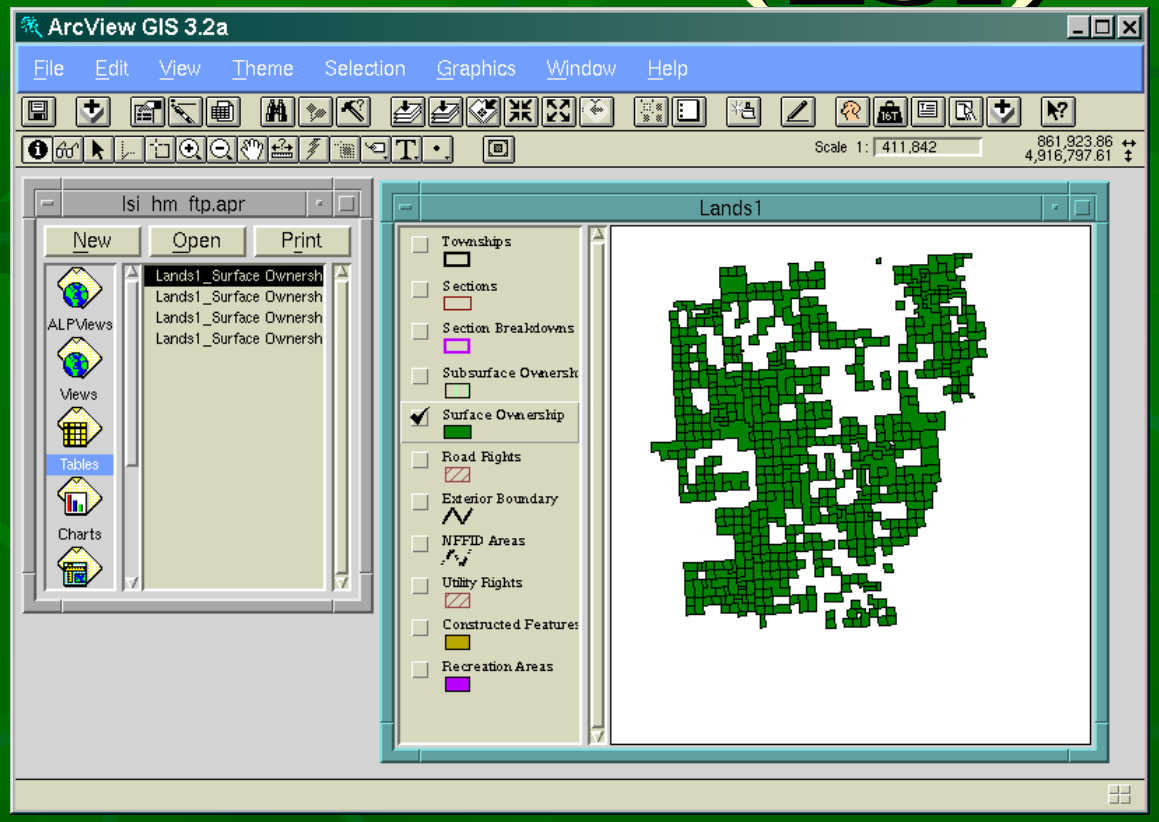
FS Corporate Standards

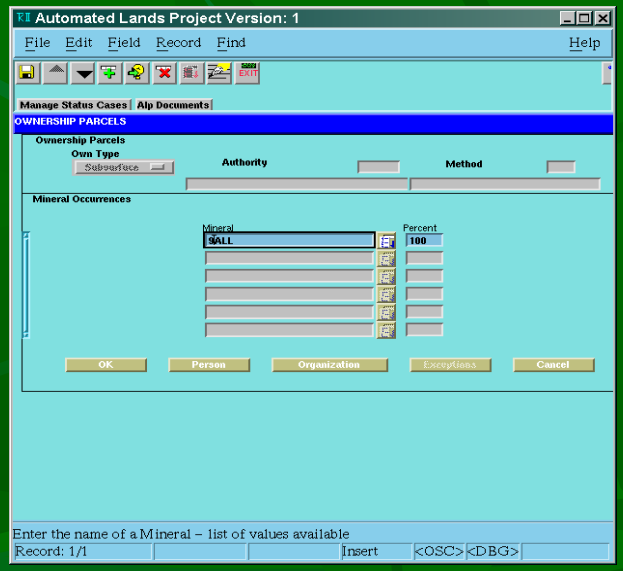
- FS Core Data standards
  - Standards for themes identified as meeting 90% of agency business needs
  - Defined in FS GIS Data Dictionary
  - Annual review/update process
- ALP is the official source of the land network
  - GCDB

ALP Data Steward Applications

- Land Status Inventory (LSI)
- Land Survey Management (LSM)

Land Status Inventory (LSI)





Note: Spatial maintenance done in ArcEdit

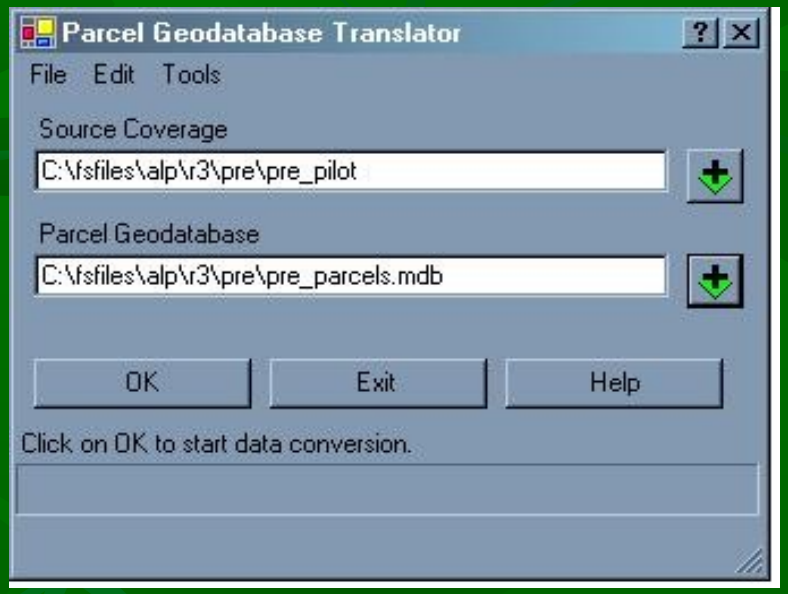
ALP Publication System

- A system for distributing Lands data and facilitating its use within the Forest Service in the ArcGIS software environment
- Moves ALP forward

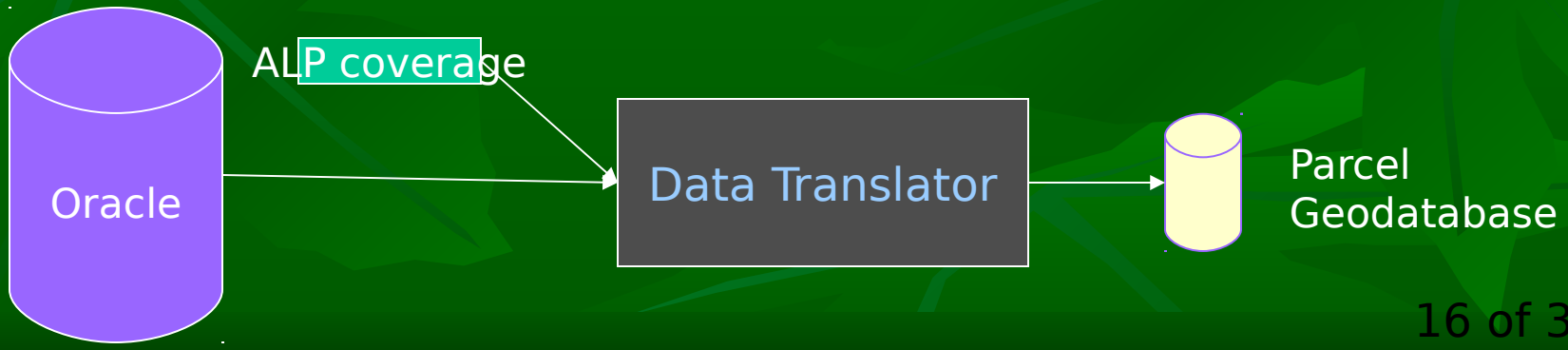
Publication System Components

- Data Translators
  - ALP to Parcel Geodatabase
  - Parcel Geodatabase to FS Publication Geodatabase
- Data Distribution Components
- Data Use Components

Parcel Translation



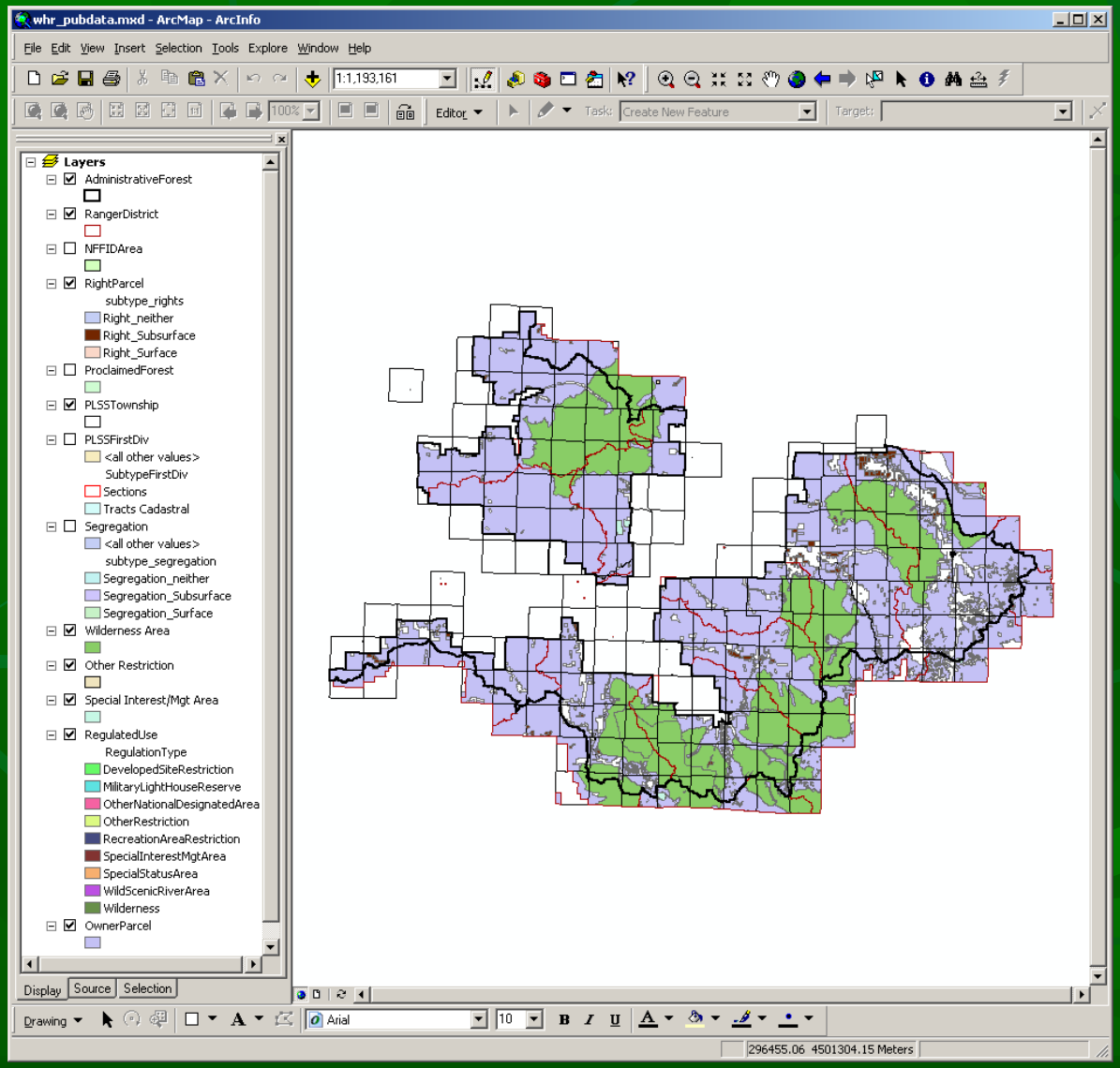
Generates a personal geodatabase from the FS parcel model schema. Data from an ALP coverage and related Oracle tables are “translated” to the parcel geodatabase.



Data Usability components

- Purpose -- Provide tools and products for facilitating the use of Lands data in the Forest Service
- Focus Areas
  - Data Accessibility
  - Map production
  - Data querying
  - Reporting

Automated Map Setup



Forest Service NILS Activities

- Input to Requirements Analysis for Survey/Measurement Management and Parcel management modules
- Improve Forest Service survey control points to GCDB updates
- Provide Forest Service data for distribution on NILS websites

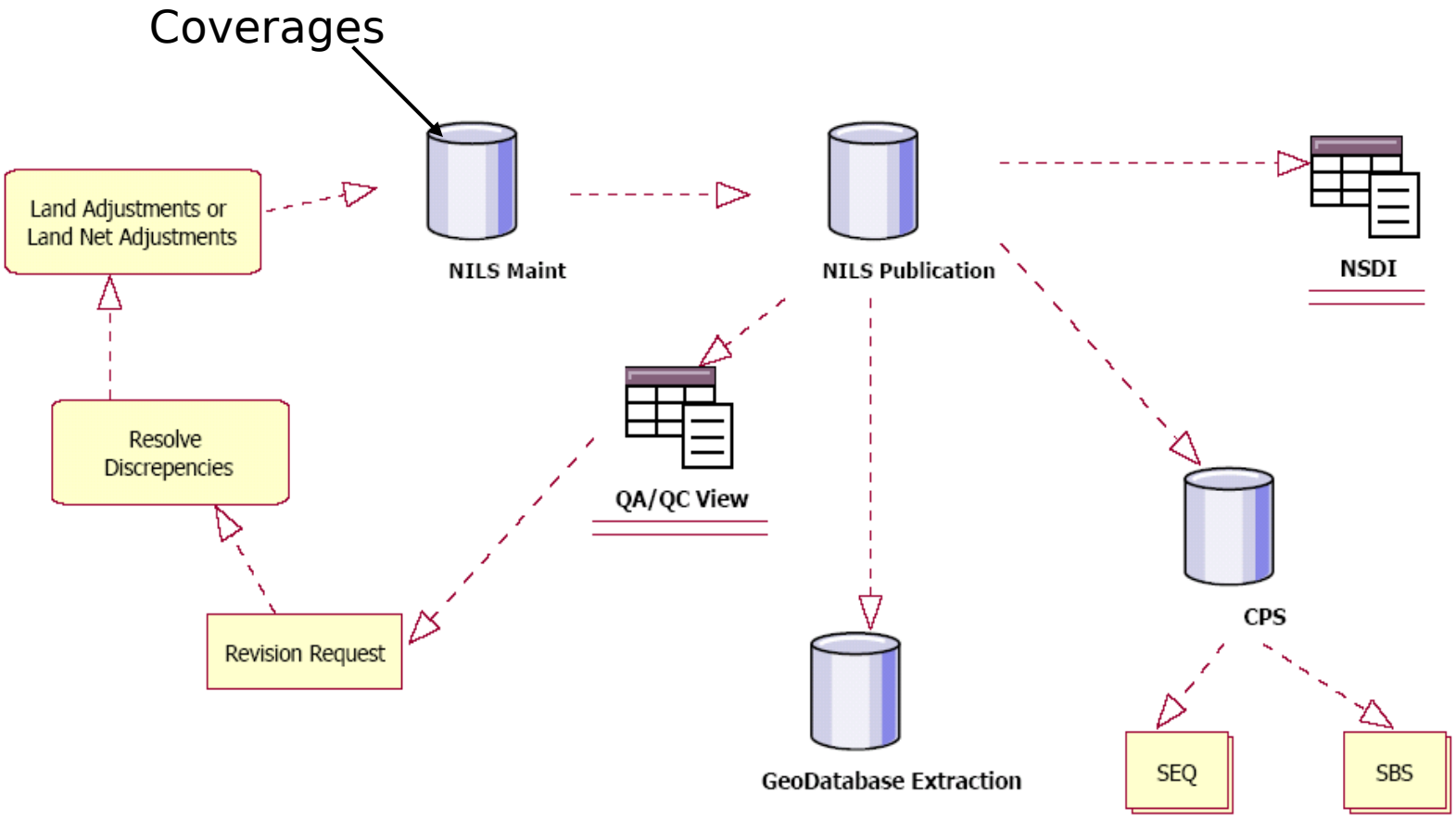
NILS Implementation Status

- Forest Service has not implemented NILS yet
- Gap Analysis underway
  - Parcel Model, Publication System
  - ALP/NILS Prescott Pilot
  - Boundary & Title Claim Management Project
- Survey Mgt/Measure Mgt Module Implementation -- FY06?

Prescott Pilot Purpose

- ***Create a Consistent Source and Method for USFS Geospatial Technology Center (GSTC) cartographic production system***

Prescott Pilot Coverage Conversion



Prescott Pilot Outcomes

- Support FS SEQ map production system
- Lessons on NILS capabilities
  - Provide information on what NILS offers for updating ALP data when new GCDB is available
  - Provide experience with LR2000 database

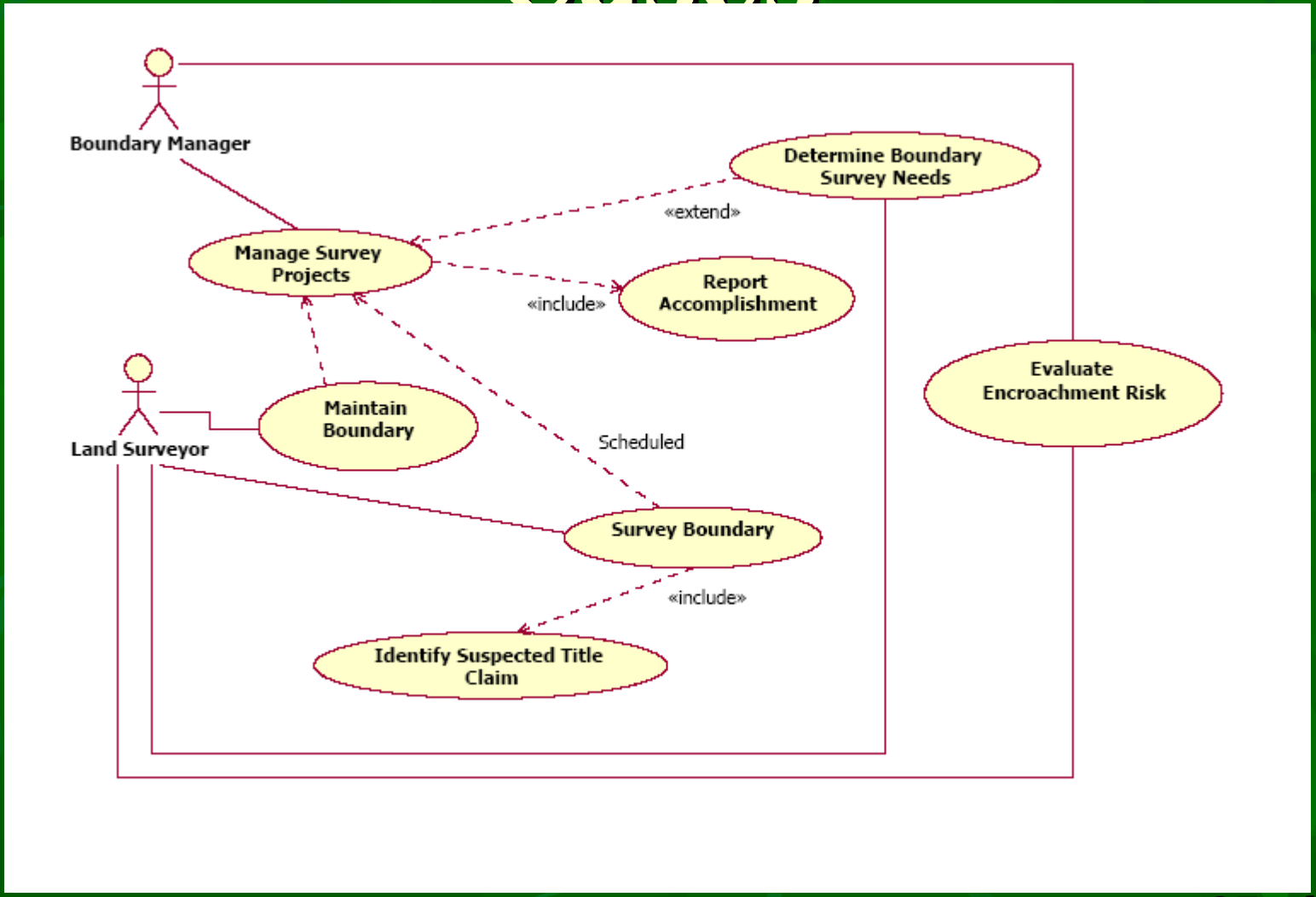
Boundary & Title Claim Management Project

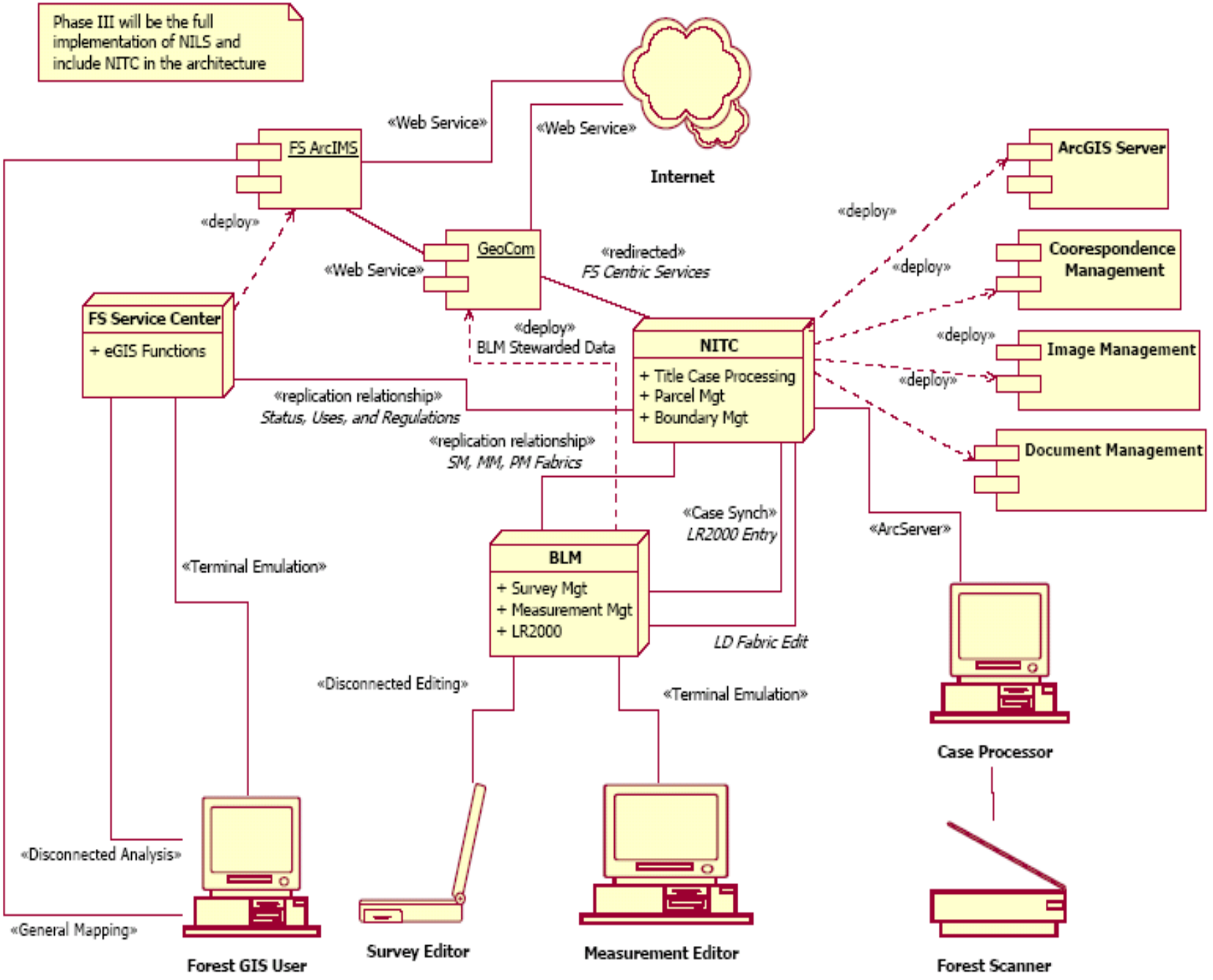
- Purpose – To Expand the NILS model to handle boundary and title claim management
- Support the following:
  - Surveying National Forest Boundaries
  - Marking and Posting National Forest Boundaries
  - Managing Survey Projects
  - Decision Support

Definitions

- ***Boundary Management*** : Location, identification and persistence of the boundaries between National Forest Lands and adjacent land owners. (FSM 7152)
- ***Title Claim***: A claim of land as a person's own based on any reasonable evidence that establishes the person's actual use as though that person had obtained ownership in fee simple. (FSM 5510)

Boundary Mgmt Use Cases




Phase III will be the full implementation of NILS and include NITC in the architecture
Internet
«Web Service»
«Web Service»
FS ArcIMS
«deploy»
GeoCom
«Web Service»
«redirected»
FS Centric Services
FS Service Center
+ eGIS Functions
«deploy»
BLM Stewarded Data
NITC
+ Title Case Processing
+ Parcel Mgt
+ Boundary Mgt
«deploy»
ArcGIS Server
«deploy»
Coorespondence Management
«deploy»
Image Management
«deploy»
Document Management
«replication relationship»
Status, Uses, and Regulations
«replication relationship»
SM, MM, PM Fabrics
«Case Synch»
LR2000 Entry
«ArcServer»
«Terminal Emulation»
BLM
+ Survey Mgt
+ Measurement Mgt
+ LR2000
LD Fabric Edit
Case Processor
«Disconnected Editing»
«Terminal Emulation»
«Disconnected Analysis»
«General Mapping»
Forest GIS User
Survey Editor
Measurement Editor
Forest Scanner

Boundary/Title Claim Management

- ***Design User Interface***
- ***Enhance Geodatabase Design***
- ***Add workflow integration***
- ***Build Boundary Management Components***
- ***Build Title Claim Components***

ALP Lessons

- Data conversion effort requires significant resources
  - Need experienced GIS specialist working together with land status (real estate) specialists and less experienced technicians
- Retool
  - Evaluate priorities
  - Adjust for individual capabilities
  - Avoid scope creep

Closing Remarks

- NILS addresses many common needs shared by FS & BLM
- NILS is making progress towards meeting Forest Service needs
- Forest Service remains optimistic

Questions?

For More Information

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